

**U.S. Department of the Interior**  
**Bureau of Land Management**  
**White River Field Office**  
**73544 Hwy 64**  
**Meeker, CO 81641**

## ENVIRONMENTAL ASSESSMENT

**NUMBER:** CO-110-2006-173-EA

**CASEFILE/PROJECT NUMBER** (optional): CO127535 (well 17-42)  
CO127535 (well 17-21)  
CO127535 (well 18-23)

**PROJECT NAME:** Starlight location 17-42, 17-21 and 18-23

**LEGAL DESCRIPTION:** T. 2 N., R. 96 W., Sec. 17, SE $\frac{1}{4}$ SW $\frac{1}{4}$ , 6<sup>th</sup> P.M. (well 17-42)  
T. 2 N., R. 96 W., Sec. 17, SW $\frac{1}{4}$ NW $\frac{1}{4}$ , 6<sup>th</sup> P.M. (well 17-21)  
T. 2 N., R. 96 W., Sec. 18, SW $\frac{1}{4}$ NE $\frac{1}{4}$ , 6<sup>th</sup> P.M. (well 18-23)

**APPLICANT:** Starlight Corporation

**ISSUES AND CONCERNS** (optional): On-sites were conducted on 11-03-05 for all locations, and maps for the locations are at: S:\NEPA\onsite\_photos\Starlight\11-03-05\_onsite.

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

***Background/Introduction:*** Applications have been received from Starlight Corporation to construct three well pads (see Figure 1 for project area location). Site characteristics of the proposed well pad locations are summarized in Table 1. Dominant vegetation at each location is Wyoming big sagebrush (*Artemisia tridentata* subsp. *Wyomingensis*).

Table 1. Dominant vegetation, elevation, date of on-site, surface ownership, and well and road density for the proposed well locations.

Well Number	Dominant Vegetation	Elevation (ft)	Well Density (wells/mi <sup>2</sup> )	Road Density (wells/mi <sup>2</sup> )	On-site Date	Surface Owner
17-42	Wyoming big sagebrush	6,248	3.11	3.37	3 Nov. 2005	PVT
17-21		6,274	1.71	3.17		
18-23		6,299	1.81	3.32		BLM

**Proposed Action:** The proposed action includes constructing three well pads (see Table 2 for pad dimensions and total area disturbed). Total area disturbed including overburden to construct well pads and access roads would be approximately 9.25 acres. The applicant would also

upgrade approximately 2,064 feet (1.42 acres) of existing roads and build approximately 4,066 feet (2.8 acres) of new road to access the proposed well locations.

Table 2. Pad dimensions and acres disturbed for the proposed well pads and access roads.

Well Number	Anticipated Construction Date	Pad Size (ft)	Disturbance <sup>a</sup> (Acres)	New Access Road (ft)	Disturbance (acres)
17-21	15 August 2006	260 x 290	1.73	30 x 2452	1.69
17-42	1 August 2006	225 x 310	1.80	0	0
18-23	1 September 2006	225 x 290	1.50	30 x 2064 (new road)	1.42
				30 x 1614 (upgraded road)	1.11
<b>Total</b>			<b>5.03</b>	<b>Total</b>	<b>4.22</b>
<b>Total Disturbed Acres</b>					<b>9.25</b>

<sup>a</sup> Estimate includes total acres disturbed for pad surface and overburden.

In the event that a discovery is made, the access road will be crowned with a 2% slope to insure drainage. The road borders will be maintained with bar ditches of approximately one-foot depth and surfaced with approximately 6 inches of gravel. Where possible, the gravel surfacing for the road will be put in place after the well has been completed as a producer to allow more natural restoration of the surface in the event of a dry hole.

The proposed production facilities will be submitted via **Sundry Notice** under a separate cover.

Pits which contain oil will be netted.

All water needed for drilling purposes will be obtained from a private source in the town of Meeker, Colorado or from the White River under an existing permit. Water trucks will be used to transport the water using existing access roads to the location.

Drilling fluids, cuttings, and produced water will be contained in the reserve pit. The reserve pit will be fenced on the three non-working sides during drilling and completion phases, and on the fourth side after completion and while the pit is drying. Produced hydrocarbons shall be put into test tanks on location during completion work and removed from location at a later date. Produced water will be put in the reserve pit during completion work per NTL-2B.

If ground frost prevents the segregation and removal of the topsoil material from the less desirable subsoil material, cross ripping to the depth of the topsoil material may be necessary. The reserve pit will be oriented to prevent collection of surface runoff. After the drilling rig is removed, the operator will construct a trench on the uphill side of the reserve pit to divert surface drainage around it, if needed.

All rehabilitation work, including seeding, will be completed by the fall of 2007. The BLM will not release the operators bond until the area has been successfully reclaimed to the standard of the surface owner or Surface Management Agency. The area of the reserve pit and that portion of the drill pad not needed for production operations will be re-contoured to blend as nearly as possible with the surrounding, natural topography. The reclaimed area and the remaining

stockpiled topsoil will be re-seeded in late fall, prior to the ground freezing, with the seed mixture prescribed by the surface owner or the BLM.

“Sundry Notice and Report on Wells” (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

**No Action Alternative:** Under the no action alternative, the application would be denied and the well pads and access roads would not be constructed.

**NEED FOR THE ACTION:** To respond to request by applicant to exercise lease rights and develop potential hydrocarbon reserves.

**PLAN CONFORMANCE REVIEW:** The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5 thru 2-6

Decision Language: “Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values.”

### **AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:**

**STANDARDS FOR PUBLIC LAND HEALTH:** In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

### **CRITICAL ELEMENTS**

#### **AIR QUALITY**

*Affected Environment:* The entire White River Resource area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The proposed action is located approximately 65 miles southeast of Dinosaur National Monument Visitor Center which is a Class II airshed with

special designations regarding visibility. The proposed action alone should not greatly compromise National Ambient Air Quality Standards (NAAQS) on an hourly or daily basis.

*Environmental Consequences of the Proposed Action:* Much of the required access along the proposed power line extensions will follow existing roads. Surface disturbance will be minimal and adverse impacts to air quality should not be expected.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* Re-vegetate disturbed areas with a BLM approved seed mixture as outlined in the vegetation section of this document.

## **CULTURAL RESOURCES**

*Affected Environment:* The proposed 17-42 well pad and access: The proposed well pad and access have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2006, Compliance Dated 2/14/2006) with one site located in the inventoried area. The site is a modern hunting camp and is not considered scientifically important or eligible for listing or nomination to the National Register of Historic Places (NRHP).

The proposed 17-21 well pad and access: The proposed well pad and access have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2006, Compliance Dated 2/14/2006) with no cultural resources identified in the inventoried area.

The proposed 18-23 and access: The proposed well pad and access have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2006, Compliance Dated 2/14/2006) with no new cultural resources identified in the inventoried area.

*Environmental Consequences of the Proposed Action:* The proposed 17-42 well pad and access: The proposed action will impact a modern hunting camp which is not NRHP eligible and would result in no loss to the archaeological database. There are no additional known sites within 308 meters of the proposed well location that would be impacted by the proposed project.

The proposed 17-21 well pad and access: The proposed well pad and access will not impact any known cultural resources either on the well pad location or within 308 meters of the proposed well location.

The proposed 18-23 well pad and access: The proposed well pad and access will not impact any known cultural resources either on the well pad location or within 308 meters of the proposed well location.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to cultural resources under the No Action Alternative.

*Mitigation:* 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

3. The proposed 17-42 well pad and access road; the initial ground clearing shall be monitored to ensure that prehistoric materials are not present in the subsurface and masked by the historic component.

## **INVASIVE, NON-NATIVE SPECIES**

*Affected Environment:* Cheatgrass is an undesirable, annual, invasive, and non-native plant which is present within the locality of the proposed action. Cheatgrass is highly adapted to disturbed soils. Musk thistle and Canada thistle are located in the vicinity of the proposal on other oil & gas disturbed areas, such as along a pipeline and pad approximately ½ mile east in Oil Well Gulch.

Drought conditions have been prevalent within this locality for several years, which has hampered the successful establishment of reclaimed plant species of other projects in this area. Therefore, undesirable and invasive annual plant species (i.e. cheatgrass) have become dominate in portions of previously disturbed areas which provide little resource value and hinder efforts to meet Public Land Health Standards.

*Environmental Consequences of the Proposed Action:* Activities and disturbances associated with the proposed 3 well pads and roads may enable the establishment of invasive, non-native species. This occurrence is related to the off-site transportation of seed sources by equipment and by the elimination of native plant communities (i.e. disturbed soils) who compete with undesirable vegetation.

Weed species found in the area are effectively controlled by the establishment of seeded species within disturbed areas. The proposed seed mix from the White River ROD/RMP (**Native Seed Mix #2**) is recommended because its associated plant species are adapted to this site and offer the opportunity to establish vegetation cover that mimics high seral native rangelands. Limiting factors for successful reclamation of the site includes drought, excessive grazing use, and cheatgrass establishment on the adjacent rangelands.

Prompt reclamation with successful establishment would help prevent cheatgrass from establishing on the 9.2 acres of disturbance. If other noxious weeds were to invade the locality of the proposed action, prompt control would help prevent movement into the adjacent plant communities.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* The applicant shall monitor all disturbed and reclaimed areas until final abandonment for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or invasive weeds should they occur and/or increase in density as a result of the proposed action.

Upon detection of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

Any hay and/or straw used for this proposal shall be certified free of noxious weeds.

## **MIGRATORY BIRDS**

*Affected Environment:* The Migratory Bird Treaty Act (MBTA) prohibits disturbance or destruction to an active nest, nesting birds, or their eggs or young. This applies to all birds (including raptors), except non-native species including house sparrow, European starling, rock dove, and upland game birds.

Executive Order (EO) 13186 sets forth the responsibilities of federal agencies to implement further the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that federal actions evaluate the effects of actions and agency plans on migratory birds.

U.S. Fish and Wildlife Service (USFWS) compiled a list of Birds of Conservation Concern (BCC) to identify migratory and non-migratory bird species (not including those already designated as federally threatened or endangered) that without conservation actions may become candidates for listing under the Endangered Species Act (ESA) (USFWS 2002). Additionally, Partners in Flight (PIF) North American Landbird Conservation Plan (Rich et al. 2004) addresses bird species not protected by other existing conservation programs.

Regarding locations **17-42**, **17-21** and **18-23**, a variety of migratory bird species fulfill nesting functions in the project area's predominantly Wyoming big sagebrush shrublands and associated Pinyon-juniper woodlands from late May through early August. For a detailed description of location elevation, and dominant vegetation, see **Table 1**. Species associated with these woodland communities are typical and widely represented in the Resource Area and region. Those bird populations identified by the Rocky Mountain Bird Observatory Partners in Flight program as having higher conservation interest include Brewer's sparrow (which occur in sagebrush-dominated areas), and gray flycatcher, pinyon jay, juniper titmouse, black-throated gray warbler, and violet-green swallow, which occur in pinyon-juniper dominated woodlands. The species identified are well distributed at appropriate densities in the White River Resource Area's extensive woodland and shrubland habitats.

*Environmental Consequences of the Proposed Action:* It is anticipated that the pad and access roads would be constructed in early to mid **August, 2006**, and drilling operations would begin in late August for locations **17-42** and **17-20**. It is anticipated that the pad and access roads would be constructed in early **September, 2006**, and drilling operations would begin in late September for location **18-23**. Heavy equipment use and high levels of activity associated with site construction would occur outside the migratory bird nesting season and would have no potential to disrupt nesting activities. This temporary effect would have no discernible influence on the abundance of local breeding bird populations nor the viability of any breeding bird population affiliated with the Pinyon-juniper or sagebrush type at any landscape scale.

The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has been brought to the White River Field Office's attention that migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

*Environmental Consequences of the No Action Alternative:* There would be no affect on migratory birds or their habitats under the no action alternative.

*Mitigation:* It will be the responsibility of the operator to prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g.,

migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM via **Sundry Notice** of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within **24** hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately. This mitigation applies to locations **17-42, 17-21 and 18-23.**

**THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES** (includes a finding on Standard 4)

*Affected Environment:* There are no endangered or threatened species that are known to inhabit or derive important use from the proposed project areas for locations 17-42, 17-21 and 18-23.

*Environmental Consequences of the Proposed Action:* The proposed action would have no conceivable influence on special status animals or associated habitat.

*Environmental Consequences of the No Action Alternative:* The no action alternative would have no conceivable influence on special status animals or associated habitat.

*Mitigation:* None

*Finding on the Public Land Health Standard for Threatened & Endangered species:* The proposed action would have no effective influence on populations or habitat associated with special status species.

**THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES** (includes a finding on Standard 4)

*Affected Environment:* There are no endangered or threatened species that are known to inhabit or derive important use from the proposed project areas for locations 17-42, 17-21 and 18-23.

*Environmental Consequences of the Proposed Action:* None

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* None

*Finding on the Public Land Health Standard for Threatened & Endangered species:* There is no reasonable likelihood that the proposed action or no action alternative would have an

influence on the condition or function of Threatened, Endangered, or Sensitive plant species. Thus there would be no effect on achieving the land health standard.

## **WASTES, HAZARDOUS OR SOLID**

*Affected Environment:* There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

*Environmental Consequences of the Proposed Action:* No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

*Environmental Consequences of the No Action Alternative:* No hazardous or other solid wastes would be generated under the no-action alternative.

*Mitigation:* The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

## **WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)**

*Affected Environment:* The proposed action is within Oil Well Gulch, which is tributary to the White River. It is found in segment 9a which is all tributaries to the White River, including all wetlands, lakes and reservoirs, from the confluence of North and South Forks to a point immediately above the confluence with Piceance Creek, which are not within the boundary of national forest lands except for the specific listings in segments 9b and 10b.

A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. All actions are within the White River watershed.

The State has classified this segment as a "Use Protected" reach. Its designated beneficial uses are: Cold Aquatic Life 2, Recreation 2, Water supply and Agriculture. The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. The state has defined these water quality parameters with table values. These standards reflect the ambient water quality and define maximum allowable concentrations for the various water quality parameters.

*Environmental Consequences of the Proposed Action:* New surface disturbing activities associated with the proposed actions will increase soil exposure to erosional processes. New

surface disturbance will destroy existing vegetation and increase compaction. Increased compaction combined with reduced vegetation will further decrease infiltration rates and elevate erosive potential due to runoff (overland flows) and raindrop impact during storm events.

Given the moderately rapid permeability rates of the affected soils, leaks or spills of environmentally unfriendly substances are likely to be carried down gradient in local ground water. Contaminants being transported by local ground water may discharge into surface waters of ephemeral tributaries during wet periods, be transported down gradient and potentially deteriorate surface water quality in lower portions of the watershed.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit, and Industrial Wastewater/Produced Water Permits). The operator will also be required to provide the BLM with documentation that all required permits were obtained.

Surface Water: All surface disturbing activities will strictly adhere to “Gold Book” surface operating standards for oil and gas exploration and development (copies of the “Gold Book” can be obtained at the WRFO). Corrugated metal pipes (CMPs) are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Furthermore, following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly seeded with the appropriate seed mixture as outlined in the vegetation section of this document and then covered with a sufficient amount of woody debris (if available).

To mitigate surface erosion at the well pad, interim reclamation will be required as outlined in the Air Quality mitigation section above.

*Finding on the Public Land Health Standard for water quality:* Stream segment 9a of the White River Basin currently meets water quality standards set by the state. Many of the upper tributaries which are ephemeral and flow in direct response to storm events do not meet the standards during periods of flow. Following suggested mitigation measures, water quality in the affected stream segment should be unaffected by the proposed action and continue to meet standards.

## **WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)**

*Affected Environment:* The area adjacent to the proposed project area does not support riparian or wetland communities. Furthermore, riparian or wetland communities will not be directly involved or potentially affected by the proposed action.

*Environmental Consequences of the Proposed Action:* The proposed action would have no conceivable influence on riparian or wetland communities.

*Environmental Consequences of the No Action Alternative:* The no-action alternative would not have any conceivable influence on riparian or wetland communities.

*Mitigation:* None

*Finding on the Public Land Health Standard for riparian systems:* This project would have no conceivable potential for influencing riparian attributes addressed in the Standards.

**CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:**

No ACEC’s, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

**NON-CRITICAL ELEMENTS**

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

**SOILS** (includes a finding on Standard 1)

*Affected Environment:* The following data is a product of an order III soil survey conducted by the Natural Resources Conservation Service (NRCS). The accompanying table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office. An analysis with a 3 Meters radius was run by CHollowed on 8/3/2006 10:50:03 AM: Sensitive soils: 1 record found; attribute: CSU 1; Fragile Soils (0.06 acres). This particular parcel is found on the access route to well 17-21, which is on private. However, given the lack of topography, and suggested mitigation, an engineered construction/reclamation plan will **not** be required for the proposed actions.

Soil Unit Number	Soil Unit Name	Ecological site	Acres disturbed
74	Rentsac-Moyerson-Rock Out crop, complex, 5-65% slopes	PJ Woodlands/Clayey Slopes	1.59
90	Torrifluvents, gullied	None	1.62
104	Yamac Loam,2-15%slope	Rolling Loam	5.52

*74-Rentsac-Moyerson-Rock outcrop complex, 5 to 65 percent slopes.* This map unit is on foothills and ridges. Areas are irregular in shape and are 160 to 5,000 acres in size. The native vegetation is mainly pinyon and juniper trees with an understory of shrubs and grasses. Elevation is 5,800 to 7,200 feet. The average annual precipitation is 13 to 16 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 75 to 105 days.

This unit is 40 percent Rentsac channery loam that has slopes of 5 to 50 percent, 25 percent Moyerson stony clay loam that has slopes of 15 to 65 percent, and 20 percent Rock outcrop that has slopes of 5 to 65 percent. The Moyerson soil is mainly in the lower lying areas of the unit. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used. Included in this unit are small areas of Blazon channery clay loam, Bulkley channery silty clay loam, Dollard silty clay loam, Redcreek sandy loam, and Yamac loam. Also included are small areas of soils that are similar to the Rentsac and Moyerson soils but are moderately deep to sandstone or shale. Included areas make up about 15 percent of the total acreage. The percentage varies from one area to another.

The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. In some areas the surface layer is quite variable in texture. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to very high.

The Moyerson soil is shallow and well drained. It formed in residuum derived dominantly from shale. Typically, the surface layer is light gray stony clay loam about 2 inches thick. The next layer is gray clay loam about 8 inches thick. The underlying material is gray clay 7 inches thick. Shale is at a depth of 17 inches. Depth to shale ranges from 10 to 20 inches. In some areas the surface layer is silty clay loam, silty clay, light clay, or bouldery clay loam. Permeability of the Moyerson soil is slow. Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is medium to rapid, and the hazard of water erosion is very high.

*90-Torrifluents, gullied.* This map unit is along narrow valley bottoms, in swales, and on eroded fans. Slope is 0 to 5 percent. Areas are long and narrow or irregular in shape and are 40 to 200 acres in size. The native vegetation is mainly sparse desert shrubs and annual grasses. Elevation is 5,100 to 7,000 feet. The average annual precipitation is 8 to 16 inches, the average annual air temperature is 40 to 50 degrees F, and the average frost-free period is 75 to 130 days.

This unit is 80 percent Torrifluents that are characterized by gullies and headcuts 3 to 35 feet deep and 5 to 150 feet wide. Torrifluents are moderately deep and are well drained and somewhat excessively drained. They formed in highly calcareous and gypsiferous, stratified sandy, loamy, and clayey alluvium derived dominantly from sandstone and shale. Included in this unit are small areas of Absher loam, Billings silty clay loam, Chipeta silty clay loam, Glenton sandy loam, Havre loam, Tisworth fine sandy loam, Turley fine sandy loam, and Uffens loam. Permeability of the Torrifluents is moderately rapid to slow. Available water capacity is

moderate to high. Effective rooting depth is 60 inches or more. Runoff is rapid, and the hazard of water erosion is very high, which results in high production of sediment during rainstorms and periods of snowmelt.

*104-Yamac loam, 2 to 15 percent slopes.* This deep, well drained soil is on rolling uplands, terraces, and fans. It formed in eolian and alluvial material. Areas are elongated and are 20 to 500 acres. The native vegetation is mainly low shrubs and grasses. Elevation is 5,800 to 7,100 feet. The average annual precipitation is 13 to 16 inches, the average annual air temperature is 40 to 45 degrees F, and the average frost-free period is 80 to 105 days.

Typically, the surface layer is brown loam 4 inches thick. The upper 8 inches of the subsoil is brown loam, and the lower 10 inches is highly calcareous loam. The upper 26 inches of the substratum is very pale brown loam, and the lower part to a depth of 60 inches or more is pale brown loam. Included in this unit are small areas of Forelle loam, Piceance fine sandy loam, Redcreek sandy loam, and Rentsac channery loam. Also included are small areas of strongly alkaline slick spots that are less than 50 feet in diameter and small areas of soils that are subject to gullying. Included areas make up about 15 percent of the total acreage. The percentage varies from one area to another. Permeability of this Yamac soil is moderate. Available water capacity is moderate to high. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is slight to moderate.

*Environmental Consequences of the Proposed Action:* Access road and well pad construction would remove surface cover and disturb soils, thus potentially increasing soil erosion and reducing soil health and productivity. Mitigation proposed below as well as the vegetation section would help to minimize these impacts and restore soil.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* Utility truck traffic should be kept to a minimum to reduce the potential impacts of soil compaction. To mitigate potential for soil erosion, all disturbed surfaces should be promptly revegetated with the appropriate seed mixture as outlined in the vegetation section of this document.

*Finding on the Public Land Health Standard for upland soils:* Predominance of cheat grass, halogeton, and other non desirable plant species combined with existing oil and gas developments (roads, well pads, pipe lines, power lines ...) have reduced infiltration and permeability rates resulting in increased rates of soil erosion. As a result, these locations do not meet standards for upland soils. With suggested mitigation as outlined in the water quality section of this document, soil health near the proposed actions can move towards achieving land health standards.

## **VEGETATION** (includes a finding on Standard 3)

*Affected Environment:* The proposed action is located within a Rolling Loam Ecological site, which is dominated by Wyoming big sagebrush (*Artemisia tridentat* ssp. *wyomingensis*)

community. The understory of this shrub type is dominated by western wheatgrass (*Agropyron smithii*), Sandberg bluegrass (*Poa secunda*), and June grass (*Koeleria cristata*) (see table below). Cheatgrass (*Bromus tectorum*) is an undesirable, annual, invasive, and non-native plant which is present within the locality of the proposed action.

Ecological Site / Woodland Type	Plant Community Appearance	Predominant Plant Species in the Plant Community
Rolling Loam	Sagebrush / Grass Shrubland	Wyoming big sagebrush, winterfat, low rabbitbrush, horsebrush, bitterbrush, western wheat grass, Indian rice grass, squirreltail, June grass, Nevada and Sandberg bluegrass

The soils within the project area are principally a Yamac Loam, 2 to 15% Slopes (Rolling Loam ecological site). This soil type was formed in eolian and alluvial material, which is deep and well drained. Also, Yamac Loam's have a surface layer of brown loam that is approximately 4 inches with moderate permeability, moderate to high water holding capacity, medium runoff, and slight to moderate water erosion potential. Therefore, this site normally favors successful rehabilitation efforts following a disturbance with proper moisture levels and rehabilitation techniques.

However, drought conditions have been very prevalent within this locality for several years, which has hampered the successful establishment of reclaimed plant species of other projects in this area. Therefore, undesirable and invasive annual plant species (e.g., cheatgrass) have become dominate in portions of previously disturbed areas which provide little resource value and hinder efforts to meet Public Land Health Standards.

*Environmental Consequences of the Proposed Action:* The proposed action would disturb a mid seral class of shrub and grass community for a total of 9.2 acres, which mostly occurs on private surface (pads 18-23: BLM, 17-21: private, 17-42: private). These 9.2 acres would be considered a long-term vegetative loss.

Long-term vegetative losses are associated with well pads and access roads. This acreage would temporally decrease with well pad reclamation outside of the operational area. Without successful reclamation of seeded species within this landscape, a potential exist to increase the ground cover of undesirable plant species (i.e. cheatgrass) that invade disturbed sites.

During the critical period (i.e. two growing seasons) that reclaimed plant species are trying to establish within the proposed action's disturbed environment, the plants provide a vegetation community that is succulent, green, and readily available. These areas can be sought out by livestock and/or wildlife (e.g. elk, deer, etc.) and grazed as the reclaimed plants are sprouting and attempting to establish a root system and above ground growth. This situation of heavy livestock/wildlife grazing use on newly reclaimed areas lessens the ability of plant species to establish within the rangelands. Therefore, without proper reclamation there is a greater opportunity for less desirable and invasive plants, such as cheatgrass, to establish and dominate the disturbed sites.

Previously this area has entailed considerable impacts from oil and gas activities from a network of well pads, pipeline corridors, and access roads; which have resulted in a fragmentation and

reduction of available/productive ecological sites. The proposal would entail an additional 9.2 acres of plant community depletion.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* Interim reclamation shall include the prompt re-vegetation of all disturbed areas (prior to the first prolong frost after completion of drilling) outside of the well operation (i.e. outside anchors) and access roads, including all pipelines, cut and fill slopes, and topsoil stockpiles, with Native Seed Mix #2 of the White River Resource Area Resource Management Plan (RMP), B-19, Appendix B (see table below). Seeding rates in the RMP are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. When drill seeding is not feasible (e.g. steep slopes, etc.), then broadcast seed using double the seeding rate and then harrowed to insure seed coverage. Applied seed must be certified and free of noxious weeds. Once the proposed wells are abandoned, the applicant shall re-contour all disturbances (i.e., cut and fill slopes, well pads, roadways, etc.) to the natural contour interval of the site prior to final rehabilitation activities using Native Seed Mix #2.

Native Seed Mix #	Species (Variety)	Lbs PLS/Acre
2	Western wheatgrass (Rosanna)	2
	Indian Ricegrass (Rimrock)	1
	Bluebunch wheatgrass (Whitmar)	2
	Thickspike wheatgrass (Critana)	2
	Green Needlegrass (Lodorm)	1
	Globemallow	0.5

Topsoil shall be stockpiled separately from the spoil piles during construction of the pad. This separated topsoil shall be replaced in an even manner within the top horizon upon interim reclamation and final rehabilitation. Thereby, reuse of the topsoil will aid in the establishment of seeded species.

The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclaimed plant species within three growing seasons after the application of seed. The ground cover of reclaimed seed species shall be comparable to that of the nearby undisturbed plant communities at a Potential Natural Community (PNC) state in relation to the seed mix as deemed appropriate by the BLM. Rehabilitation efforts must be repeated if it is concluded that the success rate is below an expectable level as determined by the BLM.

Fence off the complete reclamation/disturbance imprint of all well pad locations (i.e. acreage of total pad disturbance) to provide a livestock (cattle) tight barrier immediately after interim reclamation is concluded (within 2 weeks). Fencing will consist of braced corners with a 4 strand barbwire or net wire fence brought to the ground's surface. A BLM specified cattleguard will be placed at the time of fence construction where the well access road bisects the fenceline that surrounds the well pad's disturbance imprint. Once reclaimed plant species are fully established on disturbed sites as determined by the BLM (see paragraph above), the fence and cattleguard will be completely removed by the applicant. This will allow for reclaimed plant species to establish without grazing pressure from livestock and big game animals such as elk.

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The proposed action would disturb a segment of a Rolling Loam ecological site. Therefore, the action would further fragment these landscapes into isolated and disconnected parcels. Mid seral ecological sites at the proposed action locality have acceptable components within the plant community and are meeting standards for public land health.

### **WILDLIFE, AQUATIC** (includes a finding on Standard 3)

*Affected Environment:* The proposed locations are separated from warm-water aquatic communities supported by the lower White River by approximately 8 miles of ephemeral channel.

*Environmental Consequences of the Proposed Action:* Separated by approximately 8 miles of ephemeral channel, there is no reasonable likelihood that aquatic habitats associated with downstream perennial systems would be influenced by proposed well and road construction.

*Environmental Consequences of the No Action Alternative:* There would be no immediate action authorized that would have potential to affect wetland or riparian communities.

*Mitigation:* None

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Terrestrial): Because there are no aquatic habitats or animals potentially influenced by the proposed or no-action alternatives, a land health standard finding is not applicable. The proposed and no action alternatives would have no measurable influence on aquatic habitats associated with downstream systems.

### **WILDLIFE, TERRESTRIAL** (includes a finding on Standard 3)

*Affected Environment:* The proposed locations for **17-42**, **17-21** and **18-23** are situated in areas dominated by mixed Wyoming big sagebrush and shadscale-saltbush parks, associated with stunted, open-canopied pinyon-juniper woodlands.

None of the proposed locations include suitable nesting habitat for raptors. Raptor surveys were not required for locations **17-42**, **17-21** and **18-23**.

The proposed location for the well pads and access roads include deer critical winter range. These ranges sustain big game use from November through early May.

Non-game wildlife using this area are typical and widely distributed in extensive like habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly specialized species known to inhabit those lands potentially influenced by this action.

*Environmental Consequences of the Proposed Action:* Surface disturbances associated with the proposed action would result in the direct loss of mule deer critical winter habitat. In addition, human activity associated with drilling activities and increased traffic could result in increased mortality from vehicle collisions and temporarily displace elk and mule deer into areas of decreased disturbance. Both species commonly avoid areas of human activity and would potentially disperse up to **300** feet from all activity areas (Hollowed, E., personal communication, May 2004). Current road densities are high (**3.17 to 3.37** miles of road per square mile) in the project area and currently exceed road density objectives established in the White River ROD/RMP (i.e., road densities of **3** miles/square mile on big game ranges, White River ROD/RMP, page 2-29).

Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical habitat will apply. As such, no development activity is allowed from December 1 through April 30 for location 17-42, 17-21 and 18-23. Development is allowed from May 1 through November 30.

*Environmental Consequences of the No Action Alternative:* No immediate action would be authorized that would involve the adverse modification of terrestrial wildlife habitats.

*Mitigation:* Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical winter habitat will apply. As such, no development activity is allowed from **December 1** through **April 30** for locations **17-42, 17-21 and 18-23**. Development is allowed from May 1 through November 30. This stipulation applies to all surface disturbing activities.

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Aquatic): The project area presently meets the public land health standards for terrestrial animal communities. As conditioned, the proposed action would have negligible long term influence on the utility or function of big game, raptor, or non-game habitats surrounding the proposed location for the well pad and access road. In an overall context, lands affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

**OTHER NON-CRITICAL ELEMENTS:** For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation		X	

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Cadastral Survey	X		
Fire Management		X	
Forest Management		X	
Geology and Minerals			X
Hydrology/Water Rights		X	
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations		X	
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

## ACCESS AND TRANSPORTATION

*Affected Environment:* The proposed action occurs within an area designated as Open Seasonally. The area is closed to off road cross-county travel from October 1 through April 30 of each year. The access follows existing routes County Road 142 and BLM 1753 thru public lands onto private property. The final access, approximately 146 feet, to the Starlight Federal #18-23 crosses back onto public lands. Traffic along these roads is heaviest during the fall hunting seasons but is also used for accessing existing, producing wells.

*Environmental Consequences of the Proposed Action:* Approximately 3,920 feet of new road construction and 2064 feet of upgrading will take place on private surface lands. The final 146 feet of new construction that is immediately associated with the pad for the Starlight Federal #18-23 is on Federal surface. Traffic on the public roads will increase during the construction of the pads and drilling. No changes to the public roads are anticipated as a result of this action.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* None

## GEOLOGY AND MINERALS

*Affected Environment:* The surface geologic formation of the well locations is Wasatch and Tom Brown's targeted zone is in the Mesaverde. During drilling potential water, coal, oil and gas zones will be encountered from surface to the targeted zone. These wells are located on Federal Oil and Gas Lease COC-0127535 in the Ant Hill Unit COC-062320X

*Environmental Consequences of the Proposed Action:* The cementing procedure of the proposed actions isolates the formations and will prevent the migration of gas, water, and oil between formations. The coal zones located in the Mesaverde will also be isolated during this procedure. Development of these wells will deplete the hydrocarbon resources in the targeted formation.

*Environmental Consequences of the No Action Alternative:* The natural gas resources in the targeted zone would not be recovered at this time.

*Mitigation:* None

## **PALEONTOLOGY**

*Affected Environment:* The proposed 17-42, 17-21 and 18-23 well locations and access: the proposed well locations and access are located in the Wasatch Formation (Tweto 1979) which the BLM, WRFO has classified as a Condition I formation meaning it is known to produce scientifically important fossil resources.

*Environmental Consequences of the Proposed Action:* The proposed 17-42, 17-21 and 18-23 well pad and access roads: If it becomes necessary, at any time, to excavate into the underlying rock formation to construct the access roads, level the well pad locations or excavate the reserve/blooi pits there is the high potential to impact scientifically important fossil resources.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to fossil resources under the No Action Alternative.

*Mitigation:* All exposed rock outcrops shall be inventoried for fossil resources before the initiation of construction and a report detailing the results of the inventory and any recommended mitigation shall be submitted to the BLM before the initiation of any construction.

A monitor shall be required for all excavations into the underlying rock formation for any construction of access roads, leveling of well pad locations or excavation of any reserve/blooi pits. The monitor shall be present before the initiation of such excavation and continued monitoring shall be determine, in consultation with the BLM, WRFO upon the judgment of the senior paleontologist present during monitoring.

## **RANGELAND MANAGEMENT**

*Affected Environment:* The proposed action is located in the Blacks Gulch allotment (06612), which is authorized for cattle use by Sam and Virginia Love. Grazing use by **510** cows can be authorized from April 16 through December 30 in the allotment. Typical cattle use in the vicinity of the proposal is mid April to mid July.

Soils within the project area are principally a Yamac Loam, 2-15% Slopes (Rolling Loam ecological site). This soil type provides a productive forage capacity of rangelands that are utilized by cattle to meet nutrient requirements.

Drought conditions are prevalent within the Oil Well Gulch area, which has hindered successful establishment of reclaimed plant species of other related disturbances in this area. Therefore, undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominant in a portion of these disturbed areas which provide little forage and/or resource value.

Well pad #17-42 is located on private surface adjacent to a fenceline that serves as a pasture boundary of the Blacks Gulch allotment. This fenceline is critical in controlling livestock movement between pastures of the allotment.

*Environmental Consequences of the Proposed Action:* The individual proposed action would have minimal impacts on the authorized grazing use because the amount of new surface disturbance (9.2 acres) is nominal in regards to the scale of the allotment (29,639 acres).

The 9.2 acres of disturbance is considered long-term associated with well pads (5.0 acres) and access roads (4.2 acres). This acreage would somewhat decrease with interim well pad reclamation outside of the operational area.

Long-term forage losses associated with the individual proposed action are estimated at 1 active Animal Unit Months (AUMs) due to a reduction of forage availability. An AUM is the amount of forage necessary for the substance of 1 cow and calf for a period of 1 month. Previously this portion of the allotment has entailed considerable impacts from oil and gas activities, which have resulted in a reduction and fragmentation of available rangelands and in a loss of forage for grazing use.

Well pad #17-42 is located adjacent to a fenceline that serves as a pasture boundary of the Blacks Gulch allotment. A potential exist during the construction of the pad and drilling operations for the structural integrity of this fenceline to be impaired, thus allowing livestock to trespass onto unauthorized BLM pastures.

If the proposed action was authorized during the grazing period, it would have some impacts while cattle are grazing. This is in part due to the increased activity associated with the development of the proposed action and decrease in rangelands available for grazing. Also, BLM grazing permit holders have experienced injury and losses of livestock due to heavy truck travel and inadequate fencing of disposal pits at the pads. Other impacts to livestock grazing may include such influences as a modification in livestock distribution, reduction in available forage, injury/loss to livestock, and impediments to livestock grazing and movement.

Overall, this individual proposed action would result in a loss of 1 AUM in conjunction with cumulative impacts from past, present, and possible future oil and gas activities. This oil and gas actions may have a long-term effect on the native rangeland's carrying capacity, thus influencing authorized AUMs. This possible affect would be determined during the grazing permit renewal process which includes an evaluation of forage capacity available for livestock. It is foreseeable

that the grazing permit holder could lose a portion of permitted active AUMs due to a loss of forage and fragmentation of the rangelands associated with oil and gas development within the authorized BLM grazing allotment.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to their prior condition. BLM specified cattleguards need to be installed and maintained (i.e. cleaned of sediment) in any fence crossings associated with an access road, such as well #17-42. All fence work and cattleguard placement will take place prior to the construction of well locations, thus keeping the structural integrity of the fenceline at all times. At well location #17-42, the pad shall be placed north of the fenceline such as nearby wells 18-42 and M-17-2-96-N, thus avoiding a potential reroute of the existing fenceline.

All reserve pits will need to be fenced with woven wire or 4-strand barbwire with reinforced corners strung to the ground's surface to prevent livestock from entering the pits. On-site silt retention methods needs to be designed and implemented for all roads and well pads to minimize silt loads into the watersheds of nearby stock ponds.

## **REALTY AUTHORIZATIONS**

*Affected Environment:* The proposed action will be all within the Ant Hill Unit and will not require any rights-of-way.

*Environmental Consequences of the Proposed Action:* None

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* None

## **RECREATION**

*Affected Environment:* The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area has been delineated a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

*Environmental Consequences of the Proposed Action:* The public will lose approximately 1 acre of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likelihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

*Environmental Consequences of the No Action Alternative:* No loss of dispersed recreation potential and no impact to hunting recreationists.

*Mitigation:* None.

## **VISUAL RESOURCES**

*Affected Environment:* The proposed actions would be located in and adjacent to an area with a VRM III classification. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

*Environmental Consequences of the Proposed Action:* Two of the proposed well pads would be located on private surface and not subject to BLM VRM classification objectives. Well pad **18-23** would be located on BLM on a slope below the crest of a hill. The access road to the well pad crosses private surface and is not open to travel by a casual observer. The nearest routes that would probably be traveled by a casual observer would be SH 64 (**3.5** mi.), RBC 71 & RBC 143. Other BLM routes in the area are within a mile of the proposed action, but the proposed action is not visible from any of these aforementioned routes. By painting all above ground production facilities Juniper Green to mimic and blend with existing nearby vegetation, the level of change to the characteristic landscape would be low and the objectives of the VRM III classification would be retained.

*Environmental Consequences of the No Action Alternative:* There would be no environmental impacts.

*Mitigation:* All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

**CUMULATIVE IMPACTS SUMMARY:** This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of oil and gas activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

**REFERENCES CITED:**

Conner, Carl E. and Barbara J. Davenport

2006 Class III Cultural Resource Inventory Report for Five Proposed White River Dome Well Locations: (Fed. #7-43, Fed. #8-12, Fed. #17-21, Fed. #17-42, and Fed. # 18-23) in Rio Blanco County, Colorado, for Starlight Corporation. Grand River Institute, Grand Junction, Colorado.

Tweto, Ogden

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

**PERSONS / AGENCIES CONSULTED:** None

**INTERDISCIPLINARY REVIEW:**

<b>Name</b>	<b>Title</b>	<b>Area of Responsibility</b>
Caroline Hollowed	Planning & Environmental Coordinator	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources
Jed Carling	Rangeland Specialist	Invasive, Non-Native Species
Brett Smithers	Natural Resource Specialist- Wildlife Biologist	Migratory Birds
Brett Smithers	Natural Resource Specialist- Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Melissa J. Kindall	Hazmat Collateral; Range Technician	Wastes, Hazardous or Solid; Wild Horses
Brett Smithers	Natural Resource Specialist- Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Jed Carling	Rangeland Specialist	Vegetation
Brett Smithers	Natural Resource Specialist- Wildlife Biologist	Wildlife Terrestrial and Aquatic
Linda Jones	Realty Specialist	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Jed Carling	Rangeland Specialist	Rangeland Management
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Keith Whitaker	Natural Resource Specialist	Visual Resources

# **Finding of No Significant Impact/Decision Record (FONSI/DR)**

## **CO-110-2006-173-EA**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE:** The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

**DECISION/RATIONALE:** It is my decision to approve the proposed action with the following mitigation measures.

### **MITIGATION MEASURES:**

1. Re-vegetate disturbed areas with a BLM approved seed mixture as outlined in the vegetation section of this document.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

3. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

4. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items,

sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

5. The proposed **17-42** well pad and access, the initial ground clearing shall be monitored to ensure that prehistoric materials are not present subsurface and masked by the historic component.

6. The applicant shall monitor all disturbed and reclaimed areas until final abandonment for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or invasive weeds should they occur and/or increase in density as a result of the proposed action.

7. Upon detection of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

8. Any hay and/or straw used for this proposal shall be certified free of noxious weeds.

9. It will be the responsibility of the operator to prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM via **Sundry Notice** of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately. This mitigation applies to locations **17-42, 17-21** and **18-23**.

10. The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

11. The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit, and Industrial Wastewater/Produced Water Permits). **The operator will also be required to provide the BLM with documentation that all required permits were obtained.**

12. Surface Water: All surface disturbing activities will strictly adhere to “Gold Book” surface operating standards for oil and gas exploration and development (copies of the “Gold Book” can be obtained at the WRFO). Corrugated metal pipes (CMPs) are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain

dips will be utilized in place of CMPs in these locations. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Furthermore, following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly seeded with the appropriate seed mixture as outlined in the vegetation section of this document and then covered with a sufficient amount of woody debris (if available).

13. To mitigate surface erosion at the well pad, interim reclamation will be required as outlined in the Air Quality mitigation section above.

14. Utility truck traffic should be kept to a minimum to reduce the potential impacts of soil compaction. To mitigate potential for soil erosion, all disturbed surfaces should be promptly revegetated with the appropriate seed mixture as outlined in the vegetation section of this document.

15. Interim reclamation shall include the prompt re-vegetation of all disturbed areas (prior to the first prolong frost after completion of drilling) outside of the well operation (i.e. outside anchors) and access roads, including all pipelines, cut and fill slopes, and topsoil stockpiles, with Native Seed Mix #2 of the White River Resource Area Resource Management Plan (RMP), B-19, Appendix B (see table below). Seeding rates in the RMP are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. When drill seeding is not feasible (e.g. steep slopes, etc.), then broadcast seed using double the seeding rate and then harrowed to insure seed coverage. Applied seed must be certified and free of noxious weeds. Once the proposed wells are abandoned, the applicant shall re-contour all disturbances (e.g. cut and fill slopes, well pads, roadways, etc.) to the natural contour interval of the site prior to final rehabilitation activities using Native Seed Mix #2.

Native Seed Mix #	Species (Variety)	Lbs PLS/Acre
2	Western wheatgrass (Rosanna)	2
	Indian Ricegrass (Rimrock)	1
	Bluebunch wheatgrass (Whitmar)	2
	Thickspike wheatgrass (Critana)	2
	Green Needlegrass (Lodorm)	1
	Globemallow	0.5

16. **Topsoil shall be stockpiled separately** from the spoil piles during construction of the pad. This separated topsoil shall be replaced in an even manner within the top horizon upon interim reclamation and final rehabilitation. Thereby, reuse of the topsoil will aid in the establishment of seeded species.

17. The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclaimed plant species within three growing seasons after the application of seed. The ground cover of reclaimed seed species shall be comparable to that of the nearby undisturbed plant communities at a Potential Natural Community (PNC) state in relation to the

seed mix as deemed appropriate by the BLM. Rehabilitation efforts must be repeated if it is concluded that the success rate is below an expectable level as determined by the BLM.

18. Fence off the reclamation imprint of all well pad locations to provide a livestock (cattle) tight barrier. Fencing will consist of a 4-strand barbwire with reinforced/braced corners. Once reclaimed plant species are fully established on disturbed sites (see above), the fence will be completely removed by the applicant. This will allow for reclaimed plant species to establish without grazing pressure from livestock and big game animals such as elk.

19. Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical winter habitat will apply. As such, no development activity is allowed from **December 1** through **April 30** for locations **17-42**, **17-21** and **18-23**. Development is allowed from May 1 through November 30. This stipulation applies to all surface disturbing activities.

20. All exposed rock outcrops shall be inventoried for fossil resources before the initiation of construction and a report detailing the results of the inventory and any recommended mitigation shall be submitted to the BLM before the initiation of any construction.

21. A monitor shall be required for all excavations into the underlying rock formation for any construction of access roads, leveling of well pad locations or excavation of any reserve/blooi pits. The monitor shall be present before the initiation of such excavation and continued monitoring shall be determine, in consultation with the BLM, WRFO upon the judgment of the senior paleontologist present during monitoring.

22. Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to their prior condition. BLM specified **cattleguards** need to be installed and maintained (i.e. cleaned of sediment) in any fence crossings associated with an access road, such as well #**17-42**. All fence work and cattleguard placement will take place prior to the construction of well locations, thus keeping the structural integrity of the fenceline at all times. At well location #**17-42**, the pad shall be placed north of the fenceline such as nearby wells 18-42 and M-17-2-96-N, thus avoiding a potential reroute of the existing fenceline.

23. All reserve pits need to be fenced with woven wire or 4-strand barbwire with reinforced corners strung to the ground's surface to prevent livestock from entering the pits. On-site site silt retention methods needs to be designed and implemented for all roads and well pads to minimize silt loads into the watersheds of nearby stock ponds.

24. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

**COMPLIANCE/MONITORING:** On-going compliance inspections and monitoring of drilling, production and post-production activities will be conducted by White River Field Office staff during construction of well pads, access roads, and pipelines. Specific mitigation developed in this Environmental Assessment will be followed. The Operator will be notified of compliance related issues in writing, and depending on the nature of the issue(s), will be provided 30 days to resolve such issues.

**NAME OF PREPARER:** Brett Smithers

**NAME OF ENVIRONMENTAL COORDINATOR:** Caroline Hollowed

**SIGNATURE OF AUTHORIZED OFFICIAL:**   
Field Manager

**DATE SIGNED:** 08/07/06

**ATTACHMENTS:** Figure 1: Project area location within the WRFO Resource Area.



Figure 1

